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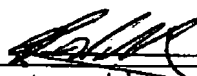
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TO: Commissioner of Patents
FAX NO.: 571-273-8300
FROM: Kin-Wah Tong
DATE: September 24, 2007
MATTER: Serial No. 09/924,022 Filed: 8/07/01
DOCKET NO.: ATT-020PUS (ATT2000-0540)
APPLICANT: McNair, et al

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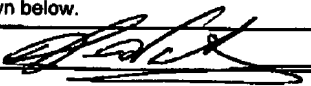
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/924,022
	Filing Date	August 7, 2001
	First Named Inventor	McNair
	Art Unit	2617
	Examiner Name	Temica M. Beamer
Total Number of Pages in This Submission	Attorney Docket Number	ATT-020PUS (ATT 2000-0540)

ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD; Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Certificate of Facsimile Transmission Deposit Account Transaction
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FEE TRANSMITTAL for FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 500

Complete If Known

Application Number	08/924,022
Filing Date	August 7, 2001
First Named Inventor	Bruce McNair
Examiner Name	Beamer, Temica M.
Art Unit	2617
Attorney Docket No.	ATT-020PUS (ATT/2000-0540)

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description

Each claim over 20 (including Reissues)
Each independent claim over 3 (including Reissues)
Multiple dependent claims

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)	Small Entity Fee (\$)	Small Entity Fee Paid (\$)
20	-20 or HP = 0	x	= 0	50	25
				200	100
				360	180

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
3	- 3 or HP = 0	x	= 0

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3. APPLICATION SIZE FEE

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Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
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4. OTHER FEE(S)

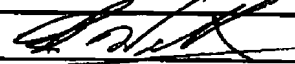
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Name (Print/Type)	Kin-Wah Tong			Date	September 24, 2007

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FEE TRANSMITTAL for FY 2005		Application Number	09/924,022
		Filing Date	August 7, 2001
		First Named Inventor	Bruce McNair
		Examiner Name	Beamer, Temica M.
		Art Unit	2817
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Attorney Docket No.	ATT-020PUS (ATT/2000-0540)
TOTAL AMOUNT OF PAYMENT		(\$) 500	RECEIVED CENTRAL FAX CENTER SEP 24 2007

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FEE CALCULATION**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee(\$)	Fee(\$)	Small Entity Fee(\$)	Fee(\$)	Small Entity Fee(\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES**Fee Description**

Each claim over 20 (including Reissues)

Each independent claim over 3 (including Reissues)

Multiple dependent claims

Total Claims	Extra Claims	Fee(\$)	Fee Paid (\$)
20	-20 or HP= 0	x	= 0

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee(\$)	Fee Paid (\$)
3	- 3 or HP= 0	x	= 0

HP = highest number of independent claims paid for, if greater than 3.

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Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
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4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): Appeal Brief

Fees Paid (\$)**\$500****SUBMITTED BY**

Signature		Registration No. (Attorney/Agent)	39,400	Telephone	(732) 530-9404
Name (Print/Type)	Kin-Wah Tong	Date	September 24, 2007		

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REAL PARTY IN INTEREST

The real party in interest is AT&T, Corp.

RELATED APPEALS AND INTERFERENCES

The Appellant knows of no related appeals or interferences that might directly affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1-27 are pending in the application. Claims 1-27 were originally presented in the application. Claims 1-27 stand rejected in view of several references as discussed below. The rejection of claims 1-27 based on the cited references is appealed. The pending claims are shown in the attached Appendix.

STATUS OF AMENDMENTS

Claim 27 was amended in the response to the Office Action dated June 7, 2004, filed on September 7, 2004. Claims 1, 18, 21, 24 and 27 were amended in response to the Office Action dated May 23, 2006, filed on August 23, 2006. No amendments to the claims, in this application, were submitted subsequent to final rejection. The Appellants are appealing the claims as they read at the time the final rejection was issued. These claims are shown in the attached Appendix.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention provides a method and system for determining the location of a mobile station utilizing simulcasted signals having substantially identical information that are transmitted from a plurality of base stations. Simulcasting is the transmission of a particular signal from a plurality of base stations at the same moment in time. Specifically, the Appellant describes simulcasting as the "simultaneous transmission of substantially the same information content from multiple base stations" (see e.g., Appellant's specification, p. 5, ll. 16-20). Namely, simulcasting creates an artificial

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multipath environment that is used by the Appellant's system to create diversity. Appellant's invention teaches a system that can simulcast simultaneous transmission of substantially identical information from a plurality of basestations BS1-N. With this arrangement, the link performance is improved by simulating multipath. Since the same signal from multiple base stations is received by a mobile station, the difference in path delay results in frequency selective fading with narrow spacing between multipath nulls interacting with the inherent frequency diversity of the OFDM system. (see e.g., Appellant's specification, p. 6, ll. 17-22).

In the embodiment of claim 1, a method for determining the location of a mobile station (MS1 – MSX) is described. The method comprises receiving a plurality of simulcast signals having substantially identical information from respective base stations (BS1 – BSX). (see e.g., Appellant's specification, p. 5, ll. 6-20; p. 6, ll. 17-22). Subsequently, the method determines relative time of arrival information for the received plurality of simulcast signals. (See e.g., Appellant's specification, p. 7, l. 11 – p. 8, l. 14, p. 10, ll. 14-25). The method concludes by determining the position of the mobile station (MS1 – MSX). (See e.g., Appellant's specification, p. 10, ll. 14-25).

In the embodiment of claim 18, a method for receiving location information for a mobile station (MS1 – MSX) is described. The method comprises transmitting simulcast signals having substantially identical information to the mobile station (MS1 – MSX). (see e.g., Appellant's specification, p. 5, ll. 6-20; p. 6, ll. 17-22). The method concludes by receiving mobile station (MS1 – MSX) location information from the mobile station (MS1 – MSX) determined from relative time of arrival information for the simulcast signals. (See e.g., Appellant's specification, p. 10, ll. 14-25).

In the embodiment of claim 21, a mobile station is described. The mobile station (MS1 – MSX) comprises a receiver for receiving simulcast signals having substantially identical information from a plurality of base stations (BS1 – BSX) and a processor for determining time of arrival information for the received simulcast signals and identifying a location of the mobile station (MS1 – MSX). (See e.g., Appellant's specification, p. 5, ll. 6-20; p. 6, ll. 17-22; p. 10, ll. 14-25).

In the embodiment of claim 24, a wireless network (100) for providing location specific information to a mobile station (MS1 – MSX) is described. The wireless

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network (100) comprises a plurality of base stations (BS1 – BSX) for transmitting simulcast signals having substantially identical information and a mobile station (MS1 – MSX) for receiving the simulcast signals and determining a location of the mobile station (MS1 – MSX). (See e.g., Appellant's specification, p. 5, ll. 6-20; p. 6, ll. 17-22; p. 10, ll. 14-25).

In the embodiment of claim 27, a wireless network (100) is described. The wireless network (100) comprises a plurality of base stations (BS1 – BSX) for transmitting simulcast signals having substantially identical information to mobile stations (MS1 – MSX) and receiving mobile station (MS1 – MSX) location information to broadcast location specific information to the mobile stations (MS1 – MSX). (See e.g., Appellant's specification, p. 5, ll. 6-20; p. 6, ll. 17-22; p. 10, ll. 14-25).

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-3, 7, 10-16, 18, 21, 23, and 24 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kangas et al. patent (U.S. Patent No. 6,356,763, issued March 12, 2002, hereinafter referred to as "Kangas"). Claims 4-6, 8, 9, 19, 20, 22, and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kangas in view of "well known prior art" (allegedly U.S. Patent Nos. 6,166,691, 6,243,648, or 5,537,398). Claims 17, 26, and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kangas in view of Oren, et al. (U.S. Patent No. 6,725,045, issued on April 20, 2004, hereinafter referred to as "Oren").

ARGUMENT

A. 35 U.S.C. §102(b) – Kangas

1. Claim 1

The Examiner has rejected claim 1 in the Office Action under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

Kangas teaches a mobile communication station that is used to measure the times of arrival of radio signals respectively transmitted by a plurality of radio transmitters. (See Kangas, Abstract).

The Board's attention is directed to the fact that Kangas does not teach each and every element of Appellant's invention as recited in independent claim 1. Namely,

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Kangas does not teach or suggest a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations. Specifically, Appellant's independent claim 1 recites:

1. A method for determining the location of a mobile station, comprising:
receiving a plurality of simulcast signals having substantially identical information from respective base stations;
determining relative time of arrival information for the received plurality of simulcast signals; and
determining the position of the mobile station. (Emphasis added)

The Appellant's invention teaches a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations. Simulcasting is the transmission of a particular signal from a plurality of base stations at the same moment in time. Specifically, the Appellant describes simulcasting as the "simultaneous transmission of substantially the same information content from multiple base stations" (see e.g., Appellant's specification, p. 5, ll. 16-20). Namely, simulcasting creates an artificial multipath environment that is used by the Appellant's system to create diversity. Appellant's invention teaches a system that can simulcast simultaneous transmission of substantially identical information from a plurality of basestations BS1-N. With this arrangement, the link performance is improved by simulating multipath. Since the same signal from multiple base stations is received by a mobile station, the difference in path delay results in frequency selective fading with narrow spacing between multipath nulls interacting with the inherent frequency diversity of the OFDM system. (see e.g., Appellant's specification, p. 6, ll. 17-22).

Kangas fails to anticipate the Appellant's invention because Kangas does not teach this aspect of the invention. Notably, Kangas does not teach or mention the simultaneous transmission of substantially identical information content from multiple base stations anywhere in the patent. Although Kangas does teach that two signals are transmitted simultaneously from two base transceiver stations BTS1 and BTS2, Kangas

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does not teach that these are simulcasted signals, i.e., having substantially identical information content. In other words, Kangas is silent as to what is the information that is being carried in the signals that are being simultaneously sent to the mobile station. Since Kangas is only concerned about the arrival time of the signals, there is no teaching that these signals are simulcasted signals, i.e., having substantially identical information.

The Examiner rebutted the Appellant's arguments by stating that Kangas at column 4, lines 13-28 teaches that the signals are substantially identical in the sense that each signal includes second search code (SSC), wherein each SSC contains 16 codes that are transmitted simultaneously with a first search code (FSC). (See Final Office Action, p. 2, ll. 11-14.) The Appellant respectfully submits that this simply teaches that each signal would have similar formats and not substantially identical information content.

In fact, the section cited by the Examiner teaches away from the Appellant's invention. Kangas teaches each base transceiver station has an associated SSC. (See Kangas, col. 4, ll. 12-15.) In other words, each base transceiver station will have a unique and different SSC pattern relative to other base transceiver stations. (See Kangas, col. 4, ll. 29-33, "a mobile station performing the proposed downlink OTD positioning technique correlates the temporal location of that base transceiver station's FSC peak with the 16 codes of its (i.e. the base transceiver station's) SSC pattern".) Therefore, Kangas actually teaches that each signal has different information content because each signal would have a different set of 16 codes for each SSC associated with each respective base transceiver station. Therefore, Kangas fails to anticipate the Appellant's invention.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir. 1984). Since Kangas does not disclose a plurality of base stations simulcasting signals having substantially identical information to a mobile device, Kangas does not teach each and every element of Appellant's claim 1. Thus, Kangas clearly fails to anticipate Appellant's independent claim 1. Consequently, Appellant respectfully submits that

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independent claim 1 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

2. Claim 2

Claim 2 stands rejected under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas does not teach, show, or suggest all of the limitations of independent claim 1. Since Kangas does not anticipate Appellant's invention as recited in Appellant's independent claim 1, dependent claim 2 is also not anticipated since the claim depends directly from claim 1 and recites additional features of the present invention. Thus, claim 2 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly, the Appellant contends that Kangas does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with determining the relative time of arrival information using characteristics inherent in the received signal, as set forth in claim 2.

In contrast, Kangas teaches that relative time of arrival information is determined using distance measurements from three separate base transceiver stations. (See Kangas, col. 1, ll. 45-47). Thus, Kangas clearly fails to anticipate Appellant's dependent claim 2. Therefore, the Appellant respectfully submits that claim 2 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

3. Claim 3

Claim 3 stands rejected under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas does not teach, show, or suggest all of the limitations of independent claim 1. Since Kangas does not anticipate Appellant's invention as recited in Appellant's independent claim 1, dependent claim 3 is also not anticipated since the claim depends indirectly from claim 1 and recites additional

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features of the present invention. Thus, claim 3 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly, the Appellant contends that Kangas does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with wherein the inherent characteristics of the received signal include time dispersion due to simultaneous transmission of the substantially identical simulcast signals, as set forth in claim 3.

In contrast, Kangas teaches that relative time of arrival information is determined using distance measurements from three separate base transceiver stations. (See Kangas, col. 1, ll. 45-47). Furthermore as discussed above, Kangas fails to teach or suggest simultaneous transmission of the substantially identical simulcast signals. Thus, Kangas clearly fails to anticipate Appellant's dependent claim 3. Therefore, the Appellant respectfully submits that claim 3 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

4. Claim 7

Claim 7 stands rejected under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas does not teach, show, or suggest all of the limitations of independent claim 1. Since Kangas does not anticipate Appellant's invention as recited in Appellant's independent claim 1, dependent claim 7 is also not anticipated since the claim depends directly from claim 1 and recites additional features of the present invention. Thus, claim 7 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly, the Appellant contends that Kangas does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with receiving base station ID information in the respective simulcast signals, as set forth in claim 7. Thus, Kangas clearly fails to anticipate

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Appellant's dependent claim 7. Therefore, the Appellant respectfully submits that claim 7 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

5. Claim 10

Claim 10 stands rejected under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas does not teach, show, or suggest all of the limitations of independent claim 1. Since Kangas does not anticipate Appellant's invention as recited in Appellant's independent claim 1, dependent claim 10 is also not anticipated since the claim depends directly from claim 1 and recites additional features of the present invention. Thus, claim 10 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly, the Appellant contends that Kangas does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with computing a locus of points having a distance from first and second ones of the plurality of base stations that differs by a signal time of arrival difference for signals from the first and second ones of the plurality of base stations, as set forth in claim 10.

As taught by the Appellant's invention, a locus of points (i.e. coordinates x and y) may be computed for possible positions for a mobile station. (See e.g., Appellant's specification, p. 7, l. 11 – p. 8, l. 15). In contrast, Kangas at best only teaches calculating a search window of a radius r based on timing advance value. (See Kangas, col. 9, ll. 4-27). Thus, Kangas clearly fails to anticipate Appellant's dependent claim 10. Therefore, the Appellant respectfully submits that claim 10 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

6. Claim 11

Claim 11 stands rejected under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

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The Appellant submits that Kangas does not teach, show, or suggest all of the limitations of independent claim 1. Since Kangas does not anticipate Appellant's invention as recited in Appellant's independent claim 1, dependent claim 11 is also not anticipated since the claim depends indirectly from claim 1 and recites additional features of the present invention. Thus, claim 11 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly, the Appellant contends that Kangas does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with computing a locus of points having a distance from first and second ones of the plurality of base stations that differs by a signal time of arrival difference for signals from the first and second ones of the plurality of base stations and further including further loci of points for further pairs of base stations, as set forth in claim 11.

As taught by the Appellant's invention, a locus of points (i.e. coordinates x and y) may be computed for possible positions for a mobile station. (See e.g., Appellant's specification, p. 7, l. 11 – p. 8, l. 15). In contrast, Kangas at best only teaches calculating a search window of a radius r based on timing advance value. (See Kangas, col. 9, ll. 4-27). Thus, Kangas clearly fails to anticipate Appellant's dependent claim 11. Therefore, the Appellant respectfully submits that claim 11 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

7. Claim 12

Claim 12 stands rejected under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas does not teach, show, or suggest all of the limitations of independent claim 1. Since Kangas does not anticipate Appellant's invention as recited in Appellant's independent claim 1, dependent claim 12 is also not anticipated since the claim depends directly from claim 1 and recites additional features of the present invention. Thus, claim 12 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

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Secondly, the Appellant contends that Kangas does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with computing the relative time of arrival information using differential in frequency information, as set forth in claim 12.

In contrast, Kangas teaches that relative time of arrival information is determined using distance measurements from three separate base transceiver stations. (See Kangas, col. 1, ll. 45-47). Thus, Kangas clearly fails to anticipate Appellant's dependent claim 12. Therefore, the Appellant respectfully submits that claim 12 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

8. Claim 13

Claim 13 stands rejected under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas does not teach, show, or suggest all of the limitations of independent claim 1. Since Kangas does not anticipate Appellant's invention as recited in Appellant's independent claim 1, dependent claim 13 is also not anticipated since the claim depends directly from claim 1 and recites additional features of the present invention. Thus, claim 13 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly, the Appellant contends that Kangas does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with receiving a signal from a first one of the plurality of base stations to a second one of the plurality of base stations for identifying the simulcast signals from respective first and/or second ones of the plurality of base stations, as set forth in claim 13. Thus, Kangas clearly fails to anticipate Appellant's dependent claim 13. Therefore, the Appellant respectfully submits that claim 13 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

9. Claim 14

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Claim 14 stands rejected under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas does not teach, show, or suggest all of the limitations of independent claim 1. Since Kangas does not anticipate Appellant's invention as recited in Appellant's independent claim 1, dependent claim 14 is also not anticipated since the claim depends directly from claim 1 and recites additional features of the present invention. Thus, claim 14 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly, the Appellant contends that Kangas does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with transmitting the mobile station position from the mobile station to one or more of the plurality of base stations, as set forth in claim 14. Notably, Kangas is silent as to teaching this additional feature of the Appellant's invention. Thus, Kangas clearly fails to anticipate Appellant's dependent claim 14. Therefore, the Appellant respectfully submits that claim 14 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

10. Claim 15

Claim 15 stands rejected under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas does not teach, show, or suggest all of the limitations of independent claim 1. Since Kangas does not anticipate Appellant's invention as recited in Appellant's independent claim 1, dependent claim 15 is also not anticipated since the claim depends indirectly from claim 1 and recites additional features of the present invention. Thus, claim 15 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly, the Appellant contends that Kangas does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with transmitting the mobile station position from the one

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or more plurality of base stations to a network server associated with the one or more plurality of base stations, as set forth in claim 15. Thus, Kangas clearly fails to anticipate Appellant's dependent claim 15. Therefore, the Appellant respectfully submits that claim 15 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

11. Claim 16

Claim 16 stands rejected under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas does not teach, show, or suggest all of the limitations of independent claim 1. Since Kangas does not anticipate Appellant's invention as recited in Appellant's independent claim 1, dependent claim 16 is also not anticipated since the claim depends directly from claim 1 and recites additional features of the present invention. Thus, claim 16 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly, the Appellant contends that Kangas does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with broadcasting information associated with the mobile station position, as set forth in claim 16. Notably, Kangas is silent as to teaching this additional feature of the Appellant's invention. Thus, Kangas clearly fails to anticipate Appellant's dependent claim 16. Therefore, the Appellant respectfully submits that claim 16 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

12. Claim 18

The Examiner has rejected claim 18 in the Office Action under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The Board's attention is directed to the fact that Kangas does not teach each and every element of Appellant's invention as recited in independent claim 18. Namely, Kangas does not teach or suggest a

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method for receiving location information for a mobile station comprising transmitting simulcast signals having substantially identical information to the mobile station.

Specifically, Appellant's independent claim 18 recites:

18. A method for receiving location information for a mobile station, comprising:
transmitting simulcast signals having substantially identical information to the mobile station; and
receiving mobile station location information from the mobile station determined from relative time of arrival information for the simulcast signals. (Emphasis added)

The Appellant's invention teaches a method for receiving location information for a mobile station comprising transmitting simulcast signals having substantially identical information to the mobile station. Simulcasting is the transmission of a particular signal from a plurality of base stations at the same moment in time. Specifically, the Appellant describes simulcasting as the "simultaneous transmission of substantially the same information content from multiple base stations" (see e.g., Appellant's specification, p. 5, ll. 16-20). Namely, simulcasting creates an artificial multipath environment that is used by the Appellant's system to create diversity. Appellant's invention teaches a system that can simulcast simultaneous transmission of substantially identical information from a plurality of basestations BS1-N. With this arrangement, the link performance is improved by simulating multipath. Since the same signal from multiple base stations is received by a mobile station, the difference in path delay results in frequency selective fading with narrow spacing between multipath nulls interacting with the inherent frequency diversity of the OFDM system. (see e.g., Appellant's specification, p. 6, ll. 17-22).

As argued above, Kangas does not teach this aspect of the invention. Notably, Kangas does not teach or mention the simultaneous transmission of substantially identical information content from multiple base stations anywhere in the patent. Although Kangas does teach that two signals are transmitted simultaneously from two base transceiver stations BTS1 and BTS2, Kangas does not teach that these are simulcasted signals, i.e., having substantially identical information content. In other words, Kangas is silent as to what is the information that is being carried in the signals

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that are being simultaneously sent to the mobile station. Since Kangas is only concerned about the arrival time of the signals, there is no teaching that these signals are simulcasted signals, i.e., having substantially identical information.

The Examiner rebutted the Appellant's arguments by stating that Kangas at column 4, lines 13-28 teaches that the signals are substantially identical in the sense that each signal includes second search code (SSC), wherein each SSC contains 16 codes that are transmitted simultaneously with a first search code (FSC). (See Final Office Action, p. 2, ll. 11-14.) The Appellant respectfully submits that this simply teaches that each signal would have similar formats and not substantially identical information content.

In fact, the section cited by the Examiner teaches away from the Appellant's invention. Kangas teaches each base transceiver station has an associated SSC. (See Kangas, col. 4, ll. 12-15.) In other words, each base transceiver station will have a unique and different SSC pattern relative to other base transceiver stations. (See Kangas, col. 4, ll. 29-33, "a mobile station performing the proposed downlink OTD positioning technique correlates the temporal location of that base transceiver station's FSC peak with the 16 codes of its (i.e. the base transceiver station's) SSC pattern".) Therefore, Kangas actually teaches that each signal has different information content because each signal would have a different set of 16 codes for each SSC associated with each respective base transceiver station. Therefore, Kangas fails to anticipate the Appellant's invention.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir. 1984). Since Kangas does not disclose transmitting simulcast signals having substantially identical information to the mobile station, Kangas does not teach each and every element of Appellant's claim 18. Thus, Kangas clearly fails to anticipate Appellant's independent claim 18. Consequently, Appellant respectfully submits that independent claim 18 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

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13. Claim 21

The Examiner has rejected claim 21 in the Office Action under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The Board's attention is directed to the fact that Kangas does not teach each and every element of Appellant's invention as recited in independent claim 21. Namely, Kangas does not teach or suggest a mobile station comprising a receiver for receiving simulcast signals having substantially identical information from a plurality of base stations. Specifically, Appellant's independent claim 21 recites:

21. A mobile station, comprising:
a receiver for receiving simulcast signals having substantially identical information from a plurality of base stations; and
a processor for determining time of arrival information for the received simulcast signals and identifying a location of the mobile station.
(Emphasis added)

The Appellant's invention teaches a mobile station comprising a receiver for receiving simulcast signals having substantially identical information from a plurality of base stations. Simulcasting is the transmission of a particular signal from a plurality of base stations at the same moment in time. Specifically, the Appellant describes simulcasting as the "simultaneous transmission of substantially the same information content from multiple base stations" (see e.g., Appellant's specification, p. 5, ll. 16-20). Namely, simulcasting creates an artificial multipath environment that is used by the Appellant's system to create diversity. Appellant's invention teaches a system that can simulcast simultaneous transmission of substantially identical information from a plurality of basestations BS1-N. With this arrangement, the link performance is improved by simulating multipath. Since the same signal from multiple base stations is received by a mobile station, the difference in path delay results in frequency selective fading with narrow spacing between multipath nulls interacting with the inherent frequency diversity of the OFDM system. (see e.g., Appellant's specification, p. 6, ll. 17-22).

As argued above, Kangas does not teach this aspect of the invention. Notably, Kangas does not teach or mention the simultaneous transmission of substantially

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identical information content from multiple base stations anywhere in the patent. Although Kangas does teach that two signals are transmitted simultaneously from two base transceiver stations BTS1 and BTS2, Kangas does not teach that these are simulcasted signals, i.e., having substantially identical information content. In other words, Kangas is silent as to what is the information that is being carried in the signals that are being simultaneously sent to the mobile station. Since Kangas is only concerned about the arrival time of the signals, there is no teaching that these signals are simulcasted signals, i.e., having substantially identical information.

The Examiner rebutted the Appellant's arguments by stating that Kangas at column 4, lines 13-28 teaches that the signals are substantially identical in the sense that each signal includes second search code (SSC), wherein each SSC contains 16 codes that are transmitted simultaneously with a first search code (FSC). (See Final Office Action, p. 2, ll. 11-14.) The Appellant respectfully submits that this simply teaches that each signal would have similar formats and not substantially identical information content.

In fact, the section cited by the Examiner teaches away from the Appellant's invention. Kangas teaches each base transceiver station has an associated SSC. (See Kangas, col. 4, ll. 12-15.) In other words, each base transceiver station will have a unique and different SSC pattern relative to other base transceiver stations. (See Kangas, col. 4, ll. 29-33, "a mobile station performing the proposed downlink OTD positioning technique correlates the temporal location of that base transceiver station's FSC peak with the 16 codes of its (i.e. the base transceiver station's) SSC pattern".) Therefore, Kangas actually teaches that each signal has different information content because each signal would have a different set of 16 codes for each SSC associated with each respective base transceiver station. Therefore, Kangas fails to anticipate the Appellant's invention.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir. 1984). Since Kangas does not disclose a receiver for receiving simulcast signals having substantially identical information from a plurality of base stations, Kangas does

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not teach each and every element of Appellant's claim 21. Thus, Kangas clearly fails to anticipate Appellant's independent claim 21. Consequently, Appellant respectfully submits that independent claim 21 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

14. Claim 23

Claim 23 stands rejected under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas does not teach, show, or suggest all of the limitations of independent claim 21. Since Kangas does not anticipate Appellant's invention as recited in Appellant's independent claim 21, dependent claim 23 is also not anticipated since the claim depends directly from claim 21 and recites additional features of the present invention. Thus, claim 23 should be deemed patentable for at least the reasons stated above with respect to independent claim 21.

Secondly, the Appellant contends that Kangas does not teach the novel concept of a mobile station comprising a receiver for receiving simulcast signals having substantially identical information from a plurality of base stations in combination with a transmitter for transmitting the mobile station location to one or more of the plurality of base stations, as set forth in claim 23. Thus, Kangas clearly fails to anticipate Appellant's dependent claim 23. Therefore, the Appellant respectfully submits that claim 23 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

15. Claim 24

The Examiner has rejected claim 24 in the Office Action under 35 U.S.C. §102 as being anticipated by Kangas. The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The Board's attention is directed to the fact that Kangas does not teach each and every element of Appellant's invention as recited in independent claim 24. Namely, Kangas does not teach or suggest a wireless network for providing location specific information to a mobile station comprising a plurality of base stations for transmitting simulcast signals having

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substantially identical information. Specifically, Appellant's independent claim 24 recites:

24. A wireless network for providing location specific information to a mobile station, comprising:

a plurality of base stations for transmitting simulcast signals having substantially identical information;

a mobile station for receiving the simulcast signals and determining a location of the mobile station. (Emphasis added)

The Appellant's invention teaches a wireless network for providing location specific information to a mobile station comprising a plurality of base stations for transmitting simulcast signals having substantially identical information. Simulcasting is the transmission of a particular signal from a plurality of base stations at the same moment in time. Specifically, the Appellant describes simulcasting as the "simultaneous transmission of substantially the same information content from multiple base stations" (see e.g., Appellant's specification, p. 5, ll. 16-20). Namely, simulcasting creates an artificial multipath environment that is used by the Appellant's system to create diversity. Appellant's invention teaches a system that can simulcast simultaneous transmission of substantially identical information from a plurality of basestations BS1-N. With this arrangement, the link performance is improved by simulating multipath. Since the same signal from multiple base stations is received by a mobile station, the difference in path delay results in frequency selective fading with narrow spacing between multipath nulls interacting with the inherent frequency diversity of the OFDM system. (see e.g., Appellant's specification, p. 6, ll. 17-22).

As argued above, Kangas does not teach this aspect of the invention. Notably, Kangas does not teach or mention the simultaneous transmission of substantially identical information content from multiple base stations anywhere in the patent. Although Kangas does teach that two signals are transmitted simultaneously from two base transceiver stations BTS1 and BTS2, Kangas does not teach that these are simulcasted signals, i.e., having substantially identical information content. In other words, Kangas is silent as to what is the information that is being carried in the signals that are being simultaneously sent to the mobile station. Since Kangas is only

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concerned about the arrival time of the signals, there is no teaching that these signals are simulcasted signals, i.e., having substantially identical information.

The Examiner rebutted the Appellant's arguments by stating that Kangas at column 4, lines 13-28 teaches that the signals are substantially identical in the sense that each signal includes second search code (SSC), wherein each SSC contains 16 codes that are transmitted simultaneously with a first search code (FSC). (See Final Office Action, p. 2, ll. 11-14.) The Appellant respectfully submits that this simply teaches that each signal would have similar formats and not substantially identical information content.

In fact, the section cited by the Examiner teaches away from the Appellant's invention. Kangas teaches each base transceiver station has an associated SSC. (See Kangas, col. 4, ll. 12-15.) In other words, each base transceiver station will have a unique and different SSC pattern relative to other base transceiver stations. (See Kangas, col. 4, ll. 29-33, "a mobile station performing the proposed downlink OTD positioning technique correlates the temporal location of that base transceiver station's FSC peak with the 16 codes of its (i.e. the base transceiver station's) SSC pattern".) Therefore, Kangas actually teaches that each signal has different information content because each signal would have a different set of 16 codes for each SSC associated with each respective base transceiver station. Therefore, Kangas fails to anticipate the Appellant's invention.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir. 1984). Since Kangas does not disclose a plurality of base stations for transmitting simulcast signals having substantially identical information, Kangas does not teach each and every element of Appellant's claim 24. Thus, Kangas clearly fails to anticipate Appellant's independent claim 24. Consequently, Appellant respectfully submits that independent claim 24 fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

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CENTRAL FAX CENTER**SEP 24 2007**BRIEF ON APPEAL
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Page 21 of 42**B. 35 U.S.C. §103(a) – Kangas and “Well Known Prior Art”****1. Claim 4**

Claim 4 stands rejected under 35 U.S.C. §103 as being unpatentable over Kangas in view of allegedly “well known prior art”. The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The patents cited for supporting the allegedly “well known prior art” are submitted to support the Examiner’s assertion that techniques such as OFMD modulation and locating a mobile station such as GPS and Doppler Shift are well known.

Claim 4 depends from independent claim 1 and recites additional features. As discussed above, Kangas does not teach or suggest a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations, as recited in claim 1. The allegedly “well known prior art” is also devoid of any teaching or suggestion of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations.

Since Kangas and the allegedly “well known prior art” do not make obvious the Appellant’s invention as recited in Appellant’s independent claim 1, dependent claim 4 is also not made obvious since the claim depends indirectly from claim 1 and recites additional features of the present invention. Thus, claim 4 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly the Appellant contends that the combination of Kangas and the allegedly “well known prior art” does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with wherein the received simulcast signals having an OFDM modulation format, as set forth in claim 4. As discussed above, Kangas actually teaches away from the Appellant’s invention. Thus, the Appellant respectfully submits that even if the allegedly “well known prior art” was combined with Kangas, the combination would still fail to teach or suggest the Appellant’s invention. As a result, this novel approach is

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absent in the alleged combination of Kangas and the allegedly well known prior art. Thus, the Appellant respectfully submits that claim 4 is patentable under the provisions of 35 U.S.C. §103.

2. Claim 5

Claim 5 stands rejected under 35 U.S.C. §103 as being unpatentable over Kangas in view of allegedly "well known prior art". The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The patents cited for supporting the allegedly "well known prior art" are submitted to support the Examiner's assertion that techniques such as OFMD modulation and locating a mobile station such as GPS and Doppler Shift are well known.

Claim 5 depends from independent claim 1 and recites additional features. As discussed above, Kangas does not teach or suggest a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations, as recited in claim 1. The allegedly "well known prior art" is also devoid of any teaching or suggestion of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations.

Since Kangas and the allegedly "well known prior art" do not make obvious the Appellant's invention as recited in Appellant's independent claim 1, dependent claim 5 is also not made obvious since the claim depends indirectly from claim 1 and recites additional features of the present invention. Thus, claim 5 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly the Appellant contends that the combination of Kangas and the allegedly "well known prior art" does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with estimating channel frequency response, as set forth in claim 5. As discussed above, Kangas actually teaches away from the Appellant's invention. Thus,

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the Appellant respectfully submits that even if the allegedly "well known prior art" was combined with Kangas, the combination would still fail to teach or suggest the Appellant's invention. As a result, this novel approach is absent in the alleged combination of Kangas and the allegedly well known prior art. Thus, the Appellant respectfully submits that claim 5 is patentable under the provisions of 35 U.S.C. §103.

3. Claim 6

Claim 6 stands rejected under 35 U.S.C. §103 as being unpatentable over Kangas in view of allegedly "well known prior art". The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The patents cited for supporting the allegedly "well known prior art" are submitted to support the Examiner's assertion that techniques such as OFMD modulation and locating a mobile station such as GPS and Doppler Shift are well known.

Claim 6 depends from independent claim 1 and recites additional features. As discussed above, Kangas does not teach or suggest a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations, as recited in claim 1. The allegedly "well known prior art" is also devoid of any teaching or suggestion of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations.

Since Kangas and the allegedly "well known prior art" do not make obvious the Appellant's invention as recited in Appellant's independent claim 1, dependent claim 6 is also not made obvious since the claim depends indirectly from claim 1 and recites additional features of the present invention. Thus, claim 6 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly the Appellant contends that the combination of Kangas and the allegedly "well known prior art" does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in

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combination with transforming the channel frequency response to obtain the relative time of arrival information, as set forth in claim 6. As discussed above, Kangas actually teaches away from the Appellant's invention. Thus, the Appellant respectfully submits that even if the allegedly "well known prior art" was combined with Kangas, the combination would still fail to teach or suggest the Appellant's invention. As a result, this novel approach is absent in the alleged combination of Kangas and the allegedly well known prior art. Thus, the Appellant respectfully submits that claim 6 is patentable under the provisions of 35 U.S.C. §103.

4. Claim 8

Claim 8 stands rejected under 35 U.S.C. §103 as being unpatentable over Kangas in view of allegedly "well known prior art". The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The patents cited for supporting the allegedly "well known prior art" are submitted to support the Examiner's assertion that techniques such as OFMD modulation and locating a mobile station such as GPS and Doppler Shift are well known.

Claim 8 depends from independent claim 1 and recites additional features. As discussed above, Kangas does not teach or suggest a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations, as recited in claim 1. The allegedly "well known prior art" is also devoid of any teaching or suggestion of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations.

Since Kangas and the allegedly "well known prior art" do not make obvious the Appellant's invention as recited in Appellant's independent claim 1, dependent claim 8 is also not made obvious since the claim depends directly from claim 1 and recites additional features of the present invention. Thus, claim 8 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

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Secondly the Appellant contends that the combination of Kangas and the allegedly "well known prior art" does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with receiving GPS signals for determining the relative time of arrival information, as set forth in claim 8. As discussed above, Kangas actually teaches away from the Appellant's invention. Thus, the Appellant respectfully submits that even if the allegedly "well known prior art" was combined with Kangas, the combination would still fail to teach or suggest the Appellant's invention. As a result, this novel approach is absent in the alleged combination of Kangas and the allegedly well known prior art. Thus, the Appellant respectfully submits that claim 8 is patentable under the provisions of 35 U.S.C. §103.

5. Claim 9

Claim 9 stands rejected under 35 U.S.C. §103 as being unpatentable over Kangas in view of allegedly "well known prior art". The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The patents cited for supporting the allegedly "well known prior art" are submitted to support the Examiner's assertion that techniques such as OFMD modulation and locating a mobile station such as GPS and Doppler Shift are well known.

Claim 9 depends from independent claim 1 and recites additional features. As discussed above, Kangas does not teach or suggest a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations, as recited in claim 1. The allegedly "well known prior art" is also devoid of any teaching or suggestion of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations.

Since Kangas and the allegedly "well known prior art" do not make obvious the Appellant's invention as recited in Appellant's independent claim 1, dependent claim 9 is

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also not made obvious since the claim depends directly from claim 1 and recites additional features of the present invention. Thus, claim 9 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly the Appellant contends that the combination of Kangas and the allegedly "well known prior art" does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations in combination with utilizing Doppler shift information associated with movement of the mobile station to determine the position of the mobile station, as set forth in claim 9. As discussed above, Kangas actually teaches away from the Appellant's invention. Thus, the Appellant respectfully submits that even if the allegedly "well known prior art" was combined with Kangas, the combination would still fail to teach or suggest the Appellant's invention. As a result, this novel approach is absent in the alleged combination of Kangas and the allegedly well known prior art. Thus, the Appellant respectfully submits that claim 9 is patentable under the provisions of 35 U.S.C. §103.

6. Claim 19

Claim 19 stands rejected under 35 U.S.C. §103 as being unpatentable over Kangas in view of allegedly "well known prior art". The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The patents cited for supporting the allegedly "well known prior art" are submitted to support the Examiner's assertion that techniques such as OFMD modulation and locating a mobile station such as GPS and Doppler Shift are well known.

Claim 19 depends from independent claim 18 and recites additional features. As discussed above, Kangas does not teach or suggest a method for receiving location information for a mobile station comprising transmitting simulcast signals having substantially identical information to the mobile station, as recited in claim 18. The allegedly "well known prior art" is also devoid of any teaching or suggestion of a method for receiving location information for a mobile station comprising transmitting simulcast signals having substantially identical information to the mobile station.

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Since Kangas and the allegedly "well known prior art" do not make obvious the Appellant's invention as recited in Appellant's independent claim 18, dependent claim 19 is also not made obvious since the claim depends directly from claim 18 and recites additional features of the present invention. Thus, claim 19 should be deemed patentable for at least the reasons stated above with respect to independent claim 18.

Secondly the Appellant contends that the combination of Kangas and the allegedly "well known prior art" does not teach the novel concept of a method for receiving location information for a mobile station comprising transmitting simulcast signals having substantially identical information to the mobile station in combination with including transmitting simulcast OFDM signals, as set forth in claim 19. As discussed above, Kangas actually teaches away from the Appellant's invention. Thus, the Appellant respectfully submits that even if the allegedly "well known prior art" was combined with Kangas, the combination would still fail to teach or suggest the Appellant's invention. As a result, this novel approach is absent in the alleged combination of Kangas and the allegedly well known prior art. Thus, the Appellant respectfully submits that claim 19 is patentable under the provisions of 35 U.S.C. §103.

7. Claim 20

Claim 20 stands rejected under 35 U.S.C. §103 as being unpatentable over Kangas in view of allegedly "well known prior art". The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The patents cited for supporting the allegedly "well known prior art" are submitted to support the Examiner's assertion that techniques such as OFMD modulation and locating a mobile station such as GPS and Doppler Shift are well known.

Claim 20 depends from independent claim 18 and recites additional features. As discussed above, Kangas does not teach or suggest a method for receiving location information for a mobile station comprising transmitting simulcast signals having substantially identical information to the mobile station, as recited in claim 18. The allegedly "well known prior art" is also devoid of any teaching or suggestion of a method

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for receiving location information for a mobile station comprising transmitting simulcast signals having substantially identical information to the mobile station.

Since Kangas and the allegedly "well known prior art" do not make obvious the Appellant's invention as recited in Appellant's independent claim 18, dependent claim 20 is also not made obvious since the claim depends indirectly from claim 18 and recites additional features of the present invention. Thus, claim 20 should be deemed patentable for at least the reasons stated above with respect to independent claim 18.

Secondly the Appellant contends that the combination of Kangas and the allegedly "well known prior art" does not teach the novel concept of a method for receiving location information for a mobile station comprising transmitting simulcast signals having substantially identical information to the mobile station in combination with transmitting location-specific information to the mobile station, as set forth in claim 20. As discussed above, Kangas actually teaches away from the Appellant's invention. Thus, the Appellant respectfully submits that even if the allegedly "well known prior art" was combined with Kangas, the combination would still fail to teach or suggest the Appellant's invention.

Furthermore, claim 20 contains similar limitations as to claims 17 and 26, which the Examiner concedes is missing from Kangas. As a result, this novel approach is absent in the alleged combination of Kangas and the allegedly well known prior art. Thus, the Appellant respectfully submits that claim 20 is patentable under the provisions of 35 U.S.C. §103.

8. Claim 22

Claim 22 stands rejected under 35 U.S.C. §103 as being unpatentable over Kangas in view of allegedly "well known prior art". The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The patents cited for supporting the allegedly "well known prior art" are submitted to support the Examiner's assertion that techniques such as OFMD modulation and locating a mobile station such as GPS and Doppler Shift are well known.

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Claim 22 depends from independent claim 21 and recites additional features. As discussed above, Kangas does not teach or suggest a mobile station comprising a receiver for receiving simulcast signals having substantially identical information from a plurality of base stations, as recited in claim 21. The allegedly "well known prior art" is also devoid of any teaching or suggestion of a method for determining the location of a mobile station comprising a receiver for receiving simulcast signals having substantially identical information from a plurality of base stations.

Since Kangas and the allegedly "well known prior art" do not make obvious the Appellant's invention as recited in Appellant's independent claim 21, dependent claim 22 is also not made obvious since the claim depends directly from claim 21 and recites additional features of the present invention. Thus, claim 22 should be deemed patentable for at least the reasons stated above with respect to independent claim 21.

Secondly the Appellant contends that the combination of Kangas and the allegedly "well known prior art" does not teach the novel concept of a mobile station comprising a receiver for receiving simulcast signals having substantially identical information from a plurality of base stations in combination with wherein the simulcast signals are OFDM signals, as set forth in claim 22. As discussed above, Kangas actually teaches away from the Appellant's invention. Thus, the Appellant respectfully submits that even if the allegedly "well known prior art" was combined with Kangas, the combination would still fail to teach or suggest the Appellant's invention. As a result, this novel approach is absent in the alleged combination of Kangas and the allegedly well known prior art. Thus, the Appellant respectfully submits that claim 22 is patentable under the provisions of 35 U.S.C. §103.

9. Claim 25

Claim 25 stands rejected under 35 U.S.C. §103 as being unpatentable over Kangas in view of allegedly "well known prior art". The Appellant respectfully traverses the rejection.

The teachings of Kangas are discussed above. The patents cited for supporting the allegedly "well known prior art" are submitted to support the Examiner's assertion

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that techniques such as OFMD modulation and locating a mobile station such as GPS and Doppler Shift are well known.

Claim 25 depends from independent claim 24 and recites additional features. As discussed above, Kangas does not teach or suggest a wireless network for providing location specific information to a mobile station comprising a plurality of base stations for transmitting simulcast signals having substantially identical information, as recited in claim 24. The allegedly "well known prior art" is also devoid of any teaching or suggestion of a wireless network for providing location specific information to a mobile station comprising a plurality of base stations for transmitting simulcast signals having substantially identical information.

Since Kangas and the allegedly "well known prior art" do not make obvious the Appellant's invention as recited in Appellant's independent claim 24, dependent claim 25 is also not made obvious since the claim depends directly from claim 24 and recites additional features of the present invention. Thus, claim 25 should be deemed patentable for at least the reasons stated above with respect to independent claim 24.

Secondly the Appellant contends that the combination of Kangas and the allegedly "well known prior art" does not teach the novel concept of a wireless network for providing location specific information to a mobile station comprising a plurality of base stations for transmitting simulcast signals having substantially identical information in combination with wherein the simulcast signals are OFDM signals, as set forth in claim 25. As discussed above, Kangas actually teaches away from the Appellant's invention. Thus, the Appellant respectfully submits that even if the allegedly "well known prior art" was combined with Kangas, the combination would still fail to teach or suggest the Appellant's invention. As a result, this novel approach is absent in the alleged combination of Kangas and the allegedly well known prior art. Thus, the Appellant respectfully submits that claim 25 is patentable under the provisions of 35 U.S.C. §103.

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C. 35 U.S.C. §103(a) – Kangas and Oren

1. Claim 17

Claim 17 stands rejected under 35 U.S.C. §103 as being unpatentable over Kangas in view of Oren. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas in view of Oren does not teach, show, or suggest all of the limitations of independent claim 1. Since Kangas in view of Oren does not render obvious Appellant's invention as recited in Appellant's independent claim 1, dependent claim 17 is also not rendered obvious since the claim depends indirectly from claim 1 and recites additional features of the present invention. Thus, claim 17 should be deemed patentable for at least the reasons stated above with respect to independent claim 1.

Secondly, the Appellant contends that Kangas in view of Oren does not teach the novel concept of a method for determining the location of a mobile station comprising receiving a plurality of simulcast signals having substantially identical information from respective base stations, as positively recited by the Appellant's independent claim 1, in combination with broadcasting location-specific advertisements, as set forth in claim 17.

Notably, Oren does not teach or suggest the use of mobile stations and base stations. Rather, Oren uses PSTN or traditional telephone technology. (See Oren, FIGs. 7 and 8). Furthermore, Oren and Kangas cannot be meaningfully combined because, as discussed above Kangas at best only teaches calculating a search window of a radius r . (See Kangas, col. 9, ll. 4-40). Therefore, Kangas would have no location specific information to broadcast using the teachings of Oren. Thus, Kangas in view of Oren clearly fails to render obvious Appellant's dependent claim 17. Therefore, the Appellant respectfully submits that claim 17 fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder.

2. Claim 26

Claim 26 stands rejected under 35 U.S.C. §103 as being unpatentable over Kangas in view of Oren. The Appellant respectfully traverses the rejection.

The Appellant submits that Kangas in view of Oren does not teach, show, or suggest all of the limitations of independent claim 24. Since Kangas in view of Oren

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does not render obvious Appellant's invention as recited in Appellant's independent claim 24, dependent claim 26 is also not rendered obvious since the claim depends directly from claim 24 and recites additional features of the present invention. Thus, claim 26 should be deemed patentable for at least the reasons stated above with respect to independent claim 24.

Secondly, the Appellant contends that Kangas in view of Oren does not teach the novel concept of a wireless network for providing location specific information to a mobile station comprising a plurality of base stations for transmitting simulcast signals having substantially identical information, as positively recited by the Appellant's independent claim 24, in combination with at least one network server for providing location-specific information to the mobile station based upon mobile station location information provided to one or more of the plurality of base stations, as set forth in claim 26.

Notably, Oren does not teach or suggest the use of mobile stations and base stations. Rather, Oren uses PSTN or traditional telephone technology. (See Oren, FIGs. 7 and 8). Furthermore, Oren and Kangas cannot be meaningfully combined because, as discussed above Kangas at best only teaches calculating a search window of a radius r . (See Kangas, col. 9, ll. 4-40). Therefore, Kangas would have no location specific information to broadcast using the teachings of Oren. Thus, Kangas in view of Oren clearly fails to render obvious Appellant's dependent claim 26. Therefore, the Appellant respectfully submits that claim 26 fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder.

3. Claim 27

The Examiner has rejected claim 27 in the Office Action under 35 U.S.C. §103 as being unpatentable over Kangas in view of Oren. The Appellant respectfully traverse the rejection.

The teachings of Kangas are discussed above. Oren teaches a method and system for locating people and routing telephone calls to telephone stations selected by the called party. According to some embodiments of the present invention, the system may include wireless personal units and a location and routing unit adapted to locate

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the personal units and to route an incoming call intended for a telephone user associated with a particular personal unit to any one of the telephone stations selected by the telephone user (see Oren, Abstract).

The Board's attention is directed to the fact that Kangas and Oren, alone or in any permissible combination, fails teach or suggest a wireless network comprising a plurality of base stations for transmitting simulcast signals having substantially identical information to a mobile station. Specifically, Appellant's independent claim 27 respectively recites:

27. A wireless network, comprising:

a plurality of base stations for transmitting simulcast signals having substantially identical information to mobile stations and receiving mobile station location information from at least one of the mobile stations to broadcast location specific information to the mobile stations. (Emphasis added)

The Appellant's invention teaches a wireless network comprising a plurality of base stations for transmitting simulcast signals having substantially identical information to a mobile station. Simulcasting is the transmission of a particular signal from a plurality of base stations at the same moment in time. Specifically, the Appellant describes simulcasting as the "simultaneous transmission of substantially the same information content from multiple base stations" (see e.g., Appellant's specification, p. 5, ll. 16-20). Namely, simulcasting creates an artificial multipath environment that is used by the Appellant's system to create diversity. Appellant's invention teaches a system that can simulcast simultaneous transmission of substantially identical information from a plurality of basestations BS1-N. With this arrangement, the link performance is improved by simulating multipath. Since the same signal from multiple base stations is received by a mobile station, the difference in path delay results in frequency selective fading with narrow spacing between multipath nulls interacting with the inherent frequency diversity of the OFDM system. (see e.g., Appellant's specification, p. 6, ll. 17-22).

As discussed above, Kangas does not teach this aspect of the invention. Notably, Kangas does not teach or mention a wireless network comprising a plurality of

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base stations for transmitting simulcast signals having substantially identical information to a mobile station anywhere in the patent. Specifically, although Kangas does teach that two signals are transmitted simultaneously from two base transceiver stations BTS1 and BTS2, Kangas does not teach that these are simulcasted signals, i.e., having substantially identical information content. In other words, Kangas is silent as to what is the information that is being carried in the signals that are being simultaneously sent to the mobile station. Since Kangas is only concerned about the arrival time of the signals, there is no teaching that these signals are simulcasted signals, i.e., having substantially identical information.

The Examiner rebutted the Appellant's arguments by stating that Kangas at column 4, lines 13-28 teaches that the signals are substantially identical in the sense that each signal includes second search code (SSC), wherein each SSC contains 16 codes that are transmitted simultaneously with a first search code (FSC). (See Final Office Action, p. 2, ll. 11-14.) The Appellant respectfully submits that this simply teaches that each signal would have similar formats and not substantially identical information content.

In fact, the section cited by the Examiner teaches away from the Appellant's invention. Kangas teaches each base transceiver station has an associated SSC. (See Kangas, col. 4, ll. 12-15.) In other words, each base transceiver station will have a unique and different SSC pattern relative to other base transceiver stations. (See Kangas, col. 4, ll. 29-33, "a mobile station performing the proposed downlink OTD positioning technique correlates the temporal location of that base transceiver station's FSC peak with the 16 codes of its (i.e. the base transceiver station's) SSC pattern".) Therefore, Kangas actually teaches that each signal has different information content because each signal would have a different set of 16 codes for each SSC associated with each respective base transceiver station. Therefore, Kangas fails to anticipate the Appellant's invention.

Oren fails to bridge the substantial gap left by Kangas. Similarly, Oren also does not teach or suggest a wireless network comprising a plurality of base stations for transmitting simulcast signals having substantially identical information to a mobile station. Since Oren fails to bridge the substantial gap existing between the Appellant's

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invention and Kangas, the Appellant contends that the combination of Kangas and Oren does not teach the Appellant's invention as a whole.

In rejecting claims under 35 U.S.C. §103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. Denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). It is respectfully submitted that the Examiner failed to present a prima facie case of obviousness. Consequently, the combination of Kangas and Oren clearly fails to render obvious Appellant's invention as recited in independent claim 27. Therefore, the Appellant respectfully submits that claim 27 fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder.

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CENTRAL FAX CENTER**SEP 24 2007**BRIEF ON APPEAL
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For the reasons advanced above, the Appellant respectfully urges that the rejections of claims 1-27 as being unpatentable under 35 U.S.C. § 102 and 35 U.S.C. § 103 are improper. Reversal of the rejections in this appeal is respectfully requested. If necessary, please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 20-0782/ATT/2000-0540, and please credit any excess fees to the above referenced deposit account.

Respectfully submitted,

September 24, 2007
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CLAIMS APPENDIX

1. (Previously Presented) A method for determining the location of a mobile station, comprising:
 - receiving a plurality of simulcast signals having substantially identical information from respective base stations;
 - determining relative time of arrival information for the received plurality of simulcast signals; and
 - determining the position of the mobile station.
2. (Original) The method according to claim 1, further including determining the relative time of arrival information using characteristics inherent in the received signal.
3. (Original) The method according to claim 2, wherein the inherent characteristics of the received signal include time dispersion due to simultaneous transmission of the substantially identical simulcast signals.
4. (Original) The method according to claim 3, wherein the received simulcast signals having an OFDM modulation format.
5. (Original) The method according to claim 4, further including estimating channel frequency response.
6. (Original) The method according to claim 5, further including transforming the channel frequency response to obtain the relative time of arrival information.
7. (Original) The method according to claim 1, further including receiving base station ID information in the respective simulcast signals.
8. (Original) The method according to claim 1, further receiving GPS signals for determining the relative time of arrival information.

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9. (Original) The method according to claim 1, further including utilizing Doppler shift information associated with movement of the mobile station to determine the position of the mobile station.
10. (Original) The method according to claim 1, further including computing a locus of points having a distance from first and second ones of the plurality of base stations that differs by a signal time of arrival difference for signals from the first and second ones of the plurality of base stations.
11. (Original) The method according to claim 10, further including further loci of points for further pairs of base stations.
12. (Original) The method according to claim 1, further including computing the relative time of arrival information using differential in frequency information.
13. (Original) The method according to claim 1, further including receiving a signal from a first one of the plurality of base stations to a second one of the plurality of base stations for identifying the simulcast signals from respective first and/or second ones of the plurality of base stations.
14. (Original) The method according to claim 1, further including transmitting the mobile station position from the mobile station to one or more of the plurality of base stations.
15. (Original) The method according to claim 14, further including transmitting the mobile station position from the one or more plurality of base stations to a network server associated with the one or more plurality of base stations.
16. (Original) The method according to claim 1, further including broadcasting information associated with the mobile station position.

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17. (Original) The method according to claim 15, further including broadcasting location-specific advertisements.
18. (Previously Presented) A method for receiving location information for a mobile station, comprising:
transmitting simulcast signals having substantially identical information to the mobile station; and
receiving mobile station location information from the mobile station determined from relative time of arrival information for the simulcast signals.
19. (Original) The method according to claim 18, further including transmitting simulcast OFDM signals.
20. (Original) The method according to claim 19, further including transmitting location-specific information to the mobile station.
21. (Previously Presented) A mobile station, comprising:
a receiver for receiving simulcast signals having substantially identical information from a plurality of base stations; and
a processor for determining time of arrival information for the received simulcast signals and identifying a location of the mobile station.
22. (Original) The mobile station according to claim 21, wherein the simulcast signals are OFDM signals.
23. (Original) The mobile station according to claim 21, further including a transmitter for transmitting the mobile station location to one or more of the plurality of base stations.
24. (Previously Presented) A wireless network for providing location specific information to a mobile station, comprising:

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a plurality of base stations for transmitting simulcast signals having substantially identical information; and

a mobile station for receiving the simulcast signals and determining a location of the mobile station.

25. (Original) The network according to claim 24, wherein the simulcast signals are OFDM signals.

26. (Original) The network according to claim 24, further including at least one network server for providing location-specific information to the mobile station based upon mobile station location information provided to one or more of the plurality of base stations.

27. (Previously Presented) A wireless network, comprising:

a plurality of base stations for transmitting simulcast signals having substantially identical information to mobile stations and receiving mobile station location information to broadcast location specific information to the mobile stations.

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EVIDENCE APPENDIX

None

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RELATED PROCEEDINGS APPENDIX

None